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Declass Review by NIMA/DOD

D R A F T
14 MARCH 1969

MEMORANDUM FOR: Executive Director, NPIC

SUBJECT: [] Digital Image Construction

REFERENCE: Executive Director, NPIC Memorandum, Same Subject,
Dated 11 February 1969

1. In response to your request in the reference, I have had several of my Technical Staff evaluate the information I have been able to pass on to them about the [] Digital Image Manipulation Display System. In addition to that we have also received and evaluated a brief proposal from [] concerned with the first phase of the establishment of an Image Enhancement and Reconstruction Facility.

2. Since the information I ^{have} ~~was able to attain~~ and that containing ^{ed in} [] the proposal was somewhat lacking I found it necessary to invite [] to return to the Center to explain the process and their proprietary equipment in more detail. His visit occurred last Wednesday, 12 March 1969. Unfortunately, due to my illness I was not able to attend. However, we were well represented by appropriate technical personnel from each of the ~~the~~ ^{our} technical divisions in Technical Services and Support Group including [] The meeting was held in [] office under his direction. Prior to the presentation given by [] there was a brief discussion period to unify our position which resulted in the following:

a. From the existing information, including the proposal, it was

not possible to adequately evaluate the system. There were two
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basic questions that could not be answered by the proposal:

(1) Does the modification to our microdensitometer constitute an improvement over our present capabilities and if so what are they?

(2) If the microdensitometer were modified in accordance with the manner briefly described in the proposal, would it essentially then become dedicated to the image enhancement and reconstruct^{on} application thereby requiring that another microdensitometer be procured for more routine image evaluation?
application.

25X1A b. We should ask [] to brief us on the total system and the specific nature of the microdensitometer^{ic} modifications he proposes and from this briefing determine whether or not a trip to their facility would be necessary to complete the evaluation.

25X1A 3. On the basis of [] briefing we now understand the nature of the modifications that he proposed for the microdensitometer which are primarily concerned with a~~positional~~ performance improvement over our present capability. [] claimed his modification would provide positional accuracy of .25 microns as compared to our present ability of 1 micron and that ~~the~~ it also would significantly increase the reliability of the position ^{at read-out.} accuracy. The significance of this aspect of the system will require considerable time to evaluate. Next [] briefed us on 25X1A the nature of their ~~forced jet~~ digitally-controlled Print-Out System. He explained this in considerable detail so that we were able to compare it with the other Digital Print-Out Systems with which we are familiar.

4. Our conclusions following this briefing were that:

a. The system coupled to an IBM Model ^{360/40} computer ~~would be~~ ^{is currently} limited to relatively simple imagery manipulations such as scale changes, tonal gradation changes, and edge enhancement. It ~~would~~ ^{may be too} ~~not~~ ^{limited in information handling capacity to} be a practical system for utilizing the completion form/Digital Image

Restoration that we are developing at []

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b. The microdensitometer modifications which they propose justify further definition and evaluation.

c. The Digital Display System and its potential development justifies and evaluation trip to [] in order to ^{more completely} compare it with other systems ^{known} to our Technical Staff.

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On the basis of this trip and the ensuing evaluation of the information gained there it will be possible to make a specific recommendation concerning the future course of action for NPIC ~~in~~ regarding the development of this system.

5. The evaluation trip is proposed for sometime during the week beginning 24 March. One day at the facility should be adequate. A small evaluation team headed up by [] with members from APSD and ESD will attend. I also propose to invite a representative from CIA/IAS. Once this evaluation has been completed we should be on firm ground for defining a course of action for the development of this system.

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